



Hunger and Obesity in the USA
– *A survey of solutions* –

April 2019

ABOUT DAISA



DAISA Enterprises is an advisory firm working at the nexus of food, health, economy, and community.

We provide strategic, operational and evaluation services to social enterprises and their investors while innovating new programs and technologies to develop a more equitable food system.



DAISA's Approach

1. "User-driven" (proximate, close to those impacted)
2. Entrepreneurial - Driven by data, hypotheses, and iteration
3. Accept complexity (do not force simplicity)
4. Define and dimensionalize risk
5. Passionate - Genius and joy on the frontline

ABOUT OUR SCOPE



PURPOSE OF ENGAGEMENT

Provide CCGA with a high level view of current innovations and disruptive enterprises addressing both hunger and obesity in low income communities in the United States

SCOPE OF INQUIRY

Key trends and areas of (non-policy focused) innovation currently addressing US hunger alleviation and obesity reduction; framing of opportunities and risks; emergent patterns, success drivers, key players

KEY PARAMETERS:

- Solutions to Hunger & Obesity, balancing broader goals to understand US malnutrition
- Low income populations in the United States; Fragile communities, the US “Bottom of the Pyramid”
- Focus on market driven solutions; Policy interventions out of scope
- 4-week timeframe to complete work

SOURCES OF INSIGHT (not exhaustive)

- 21 interviews with experts and practitioners (known and new to DAISA & CCGA)
- Fact-base from publicly available data sets
- Company websites
- DAISA’s body of knowledge from prior work in the US community food & nutrition arena

OUTPUT:

- Powerpoint slide deck including summary of findings, limited factbase, and set of case snapshots, iv) broad guidance on high value opportunities
- Reference and source files that underpin findings (e.g., interview notes, articles, databases, etc.)
- Facilitation of one session at CCGA event (i.e., March 20 conference)

OUR EFFORT USED WIDELY ACCEPTED DEFINITIONS

Hunger

A potential consequence of food insecurity that, because of prolonged involuntary lack of food, results in discomfort, illness, weakness, or pain that goes beyond the usual sensation

([Committee on National Statistics of the National Academy of Sciences](#))

Obesity

Body Mass Index (BMI) of 30 or above

BMI measures overall body size based on height and weight; Used as an indicator of overall health (National Institutes of Health)

Malnutrition

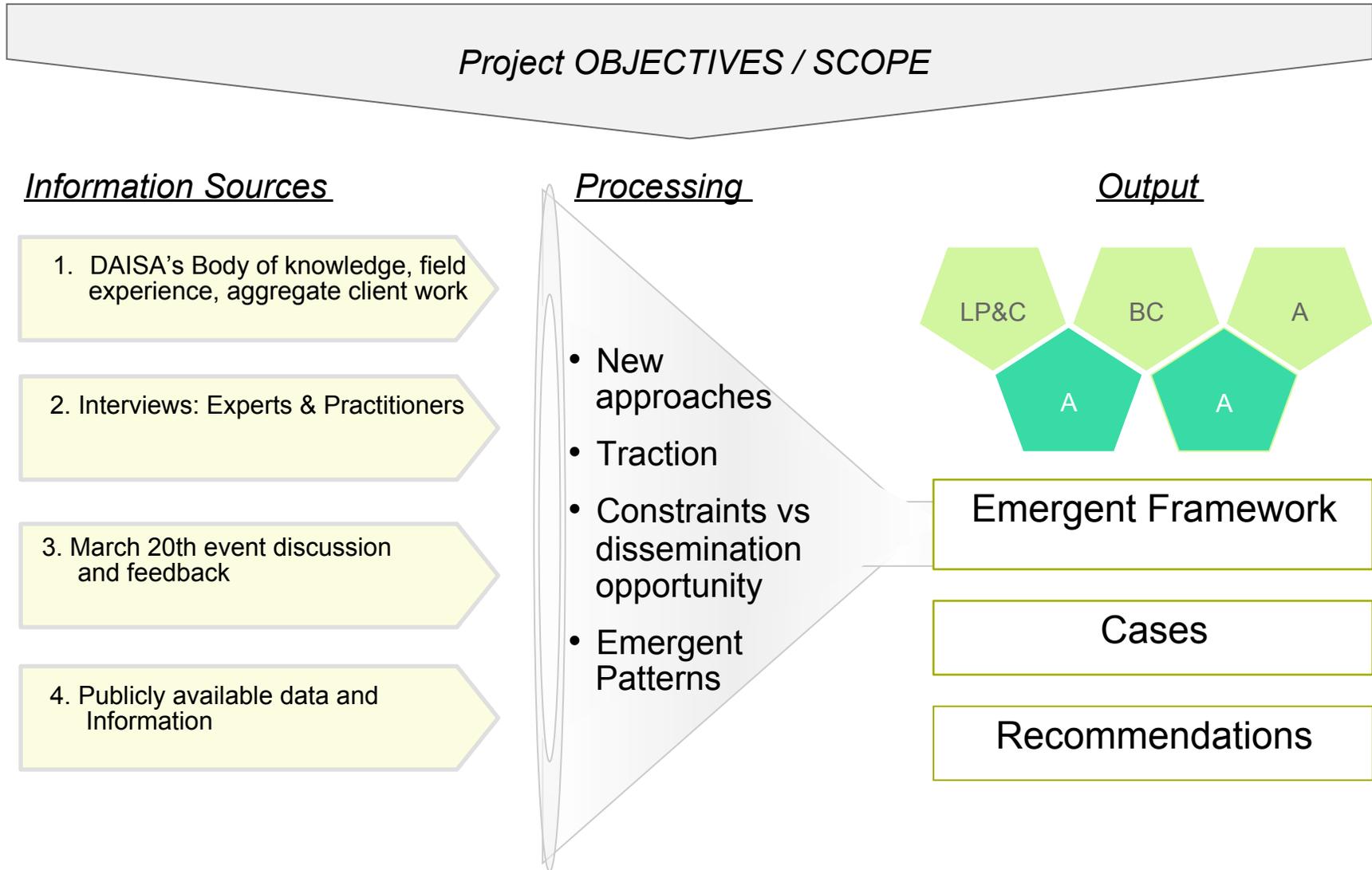
Refers to deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients

([World Health Organization](#))

Food Insecurity

A situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life ([UN Food and Agriculture Organization](#)(FAO))

A NOTE ON OUR PROCESS



Who is hungry and obese in the US?

Who is *hungry and obese* in U.S.?

OBESITY

AGE

Adults **39.8%**
Youth **18.5%**

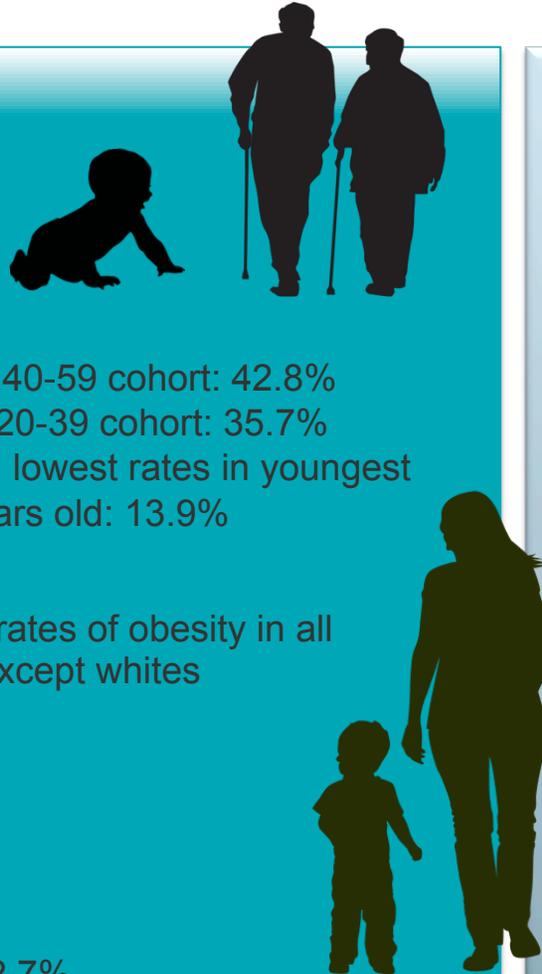
Highest rates in 40-59 cohort: 42.8%
Lowest rates in 20-39 cohort: 35.7%
Among children, lowest rates in youngest cohort of 2-5 years old: 13.9%

GENDER

Women higher rates of obesity in all ethnic groups except whites

RACE

Latino: 47.0%
Black: 46.8%
Whites: 37.9%
Asian adults: 12.7%



FOOD INSECURITY

NATIONAL AVERAGE: 11.8%

ETHNICITY

Black non Hispanic: 21.8%
Hispanic: 18%

INCOME LEVEL

Households with incomes below 185% of poverty level: **30.8%**

SINGLE-PARENT HOMES

Households with children headed by single woman: 30.3%
Households with children headed by single man: 19.7%

FAMILY HOMES

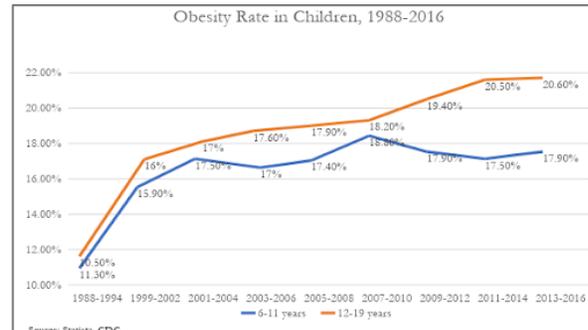
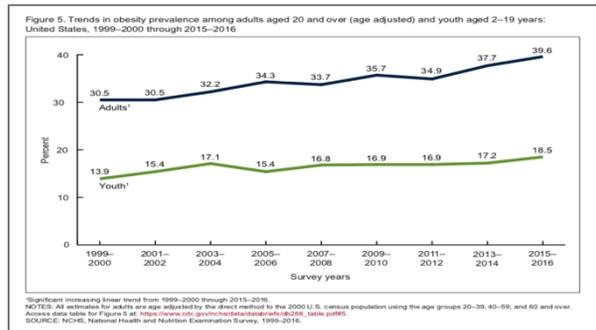
Households with children: 15.7%
Households without children: 10.1%

Source (Obesity): CDC- National Center for Health Statistics. NCHS Data Brief No 288. Oct 2017 (2015 and 2016 Figures);

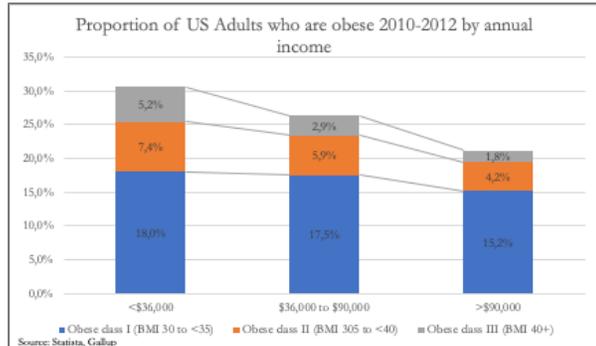
Source (Food Insecurity) USDA Economic Research Service. Food Security in the US: key Statistics and Graphs.

<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx> Accessed March 9, 2019

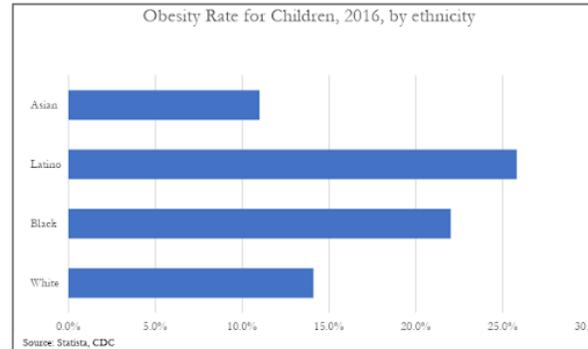
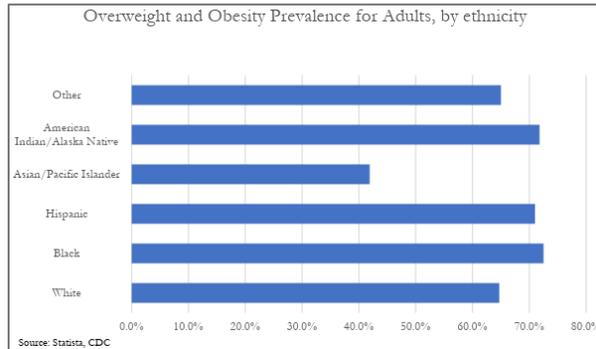
Obesity has risen across the population and hit hardest in lower income adults and children of color



Rising rates of teen obesity stand out



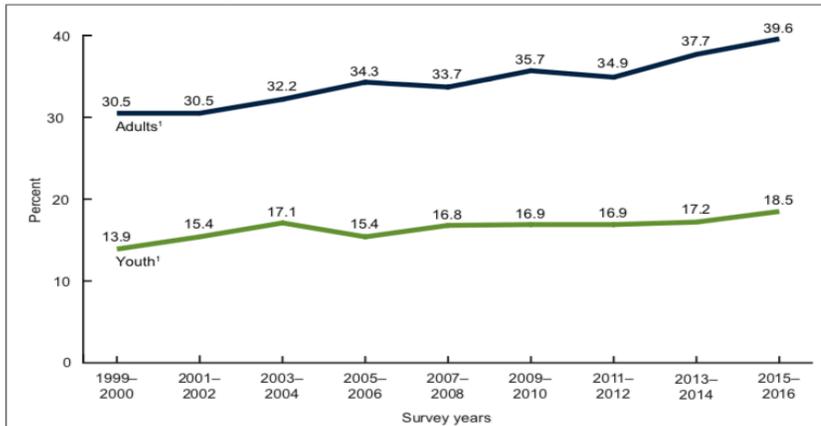
Higher prevalence in low income brackets



Disproportionate prevalence in children of color

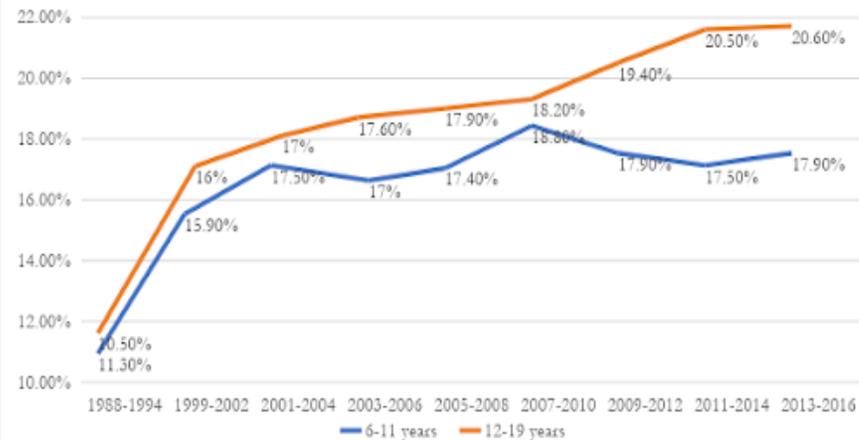
Rising rates of teen obesity stand out in historical trends

Figure 5. Trends in obesity prevalence among adults aged 20 and over (age adjusted) and youth aged 2–19 years: United States, 1999–2000 through 2015–2016



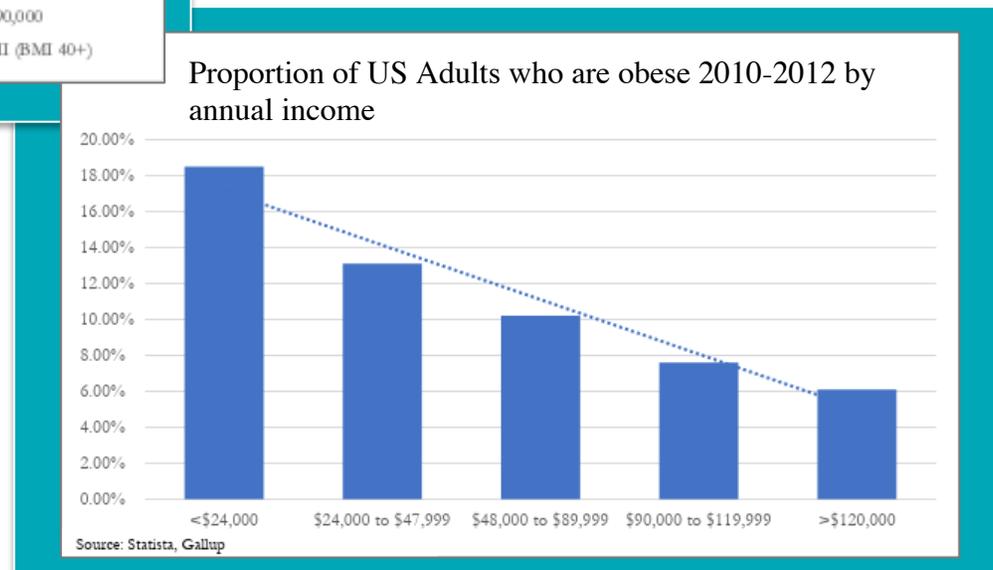
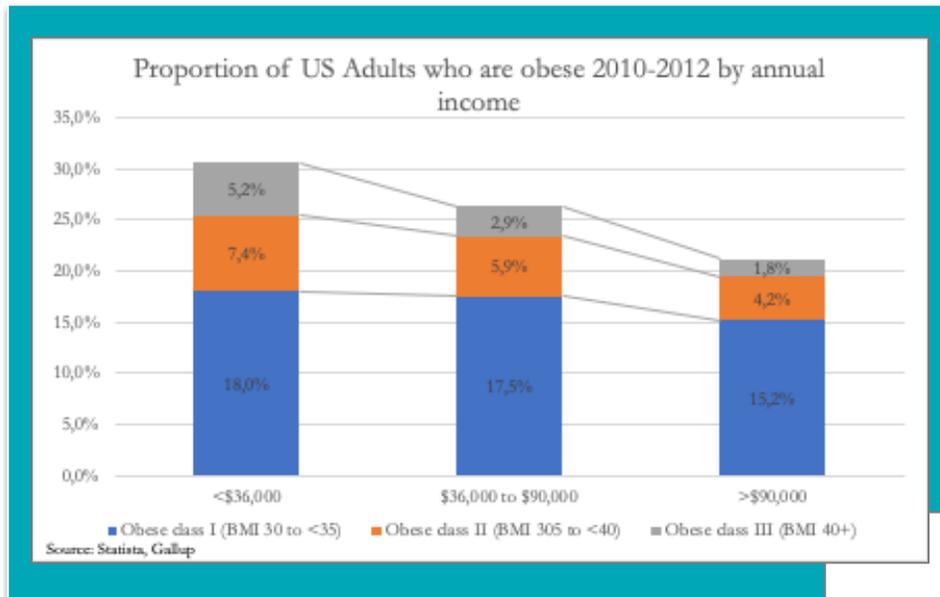
*Significant increasing linear trend from 1999–2000 through 2015–2016.
 NOTES: All estimates for adults are age adjusted by the direct method to the 2000 U.S. census population using the age groups 20–39, 40–59, and 60 and over.
 Access data table for Figure 5 at: https://www.cdc.gov/nchs/data/databriefs/db288_table.pdf#5.
 SOURCE: NCHS, National Health and Nutrition Examination Survey, 1999–2016.

Obesity Rate in Children, 1988–2016

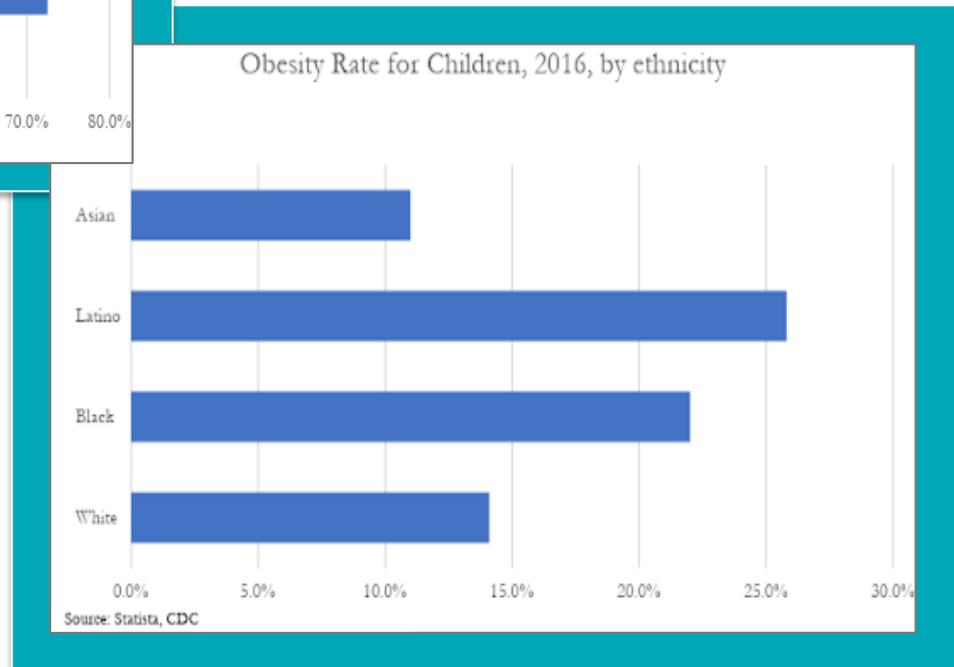
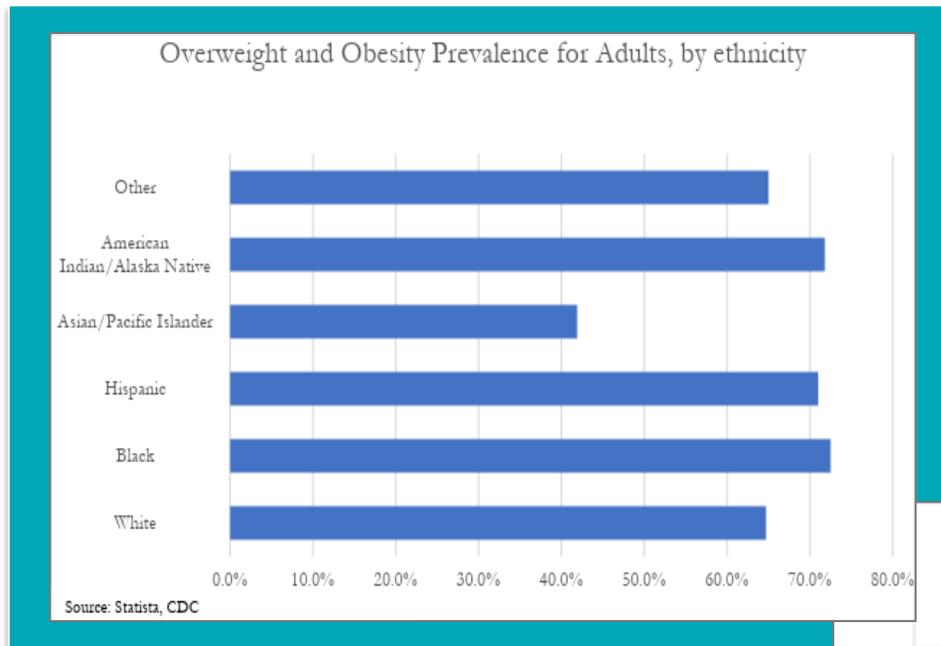


Source: Statista, CDC

Obesity is far more prevalent in low income brackets

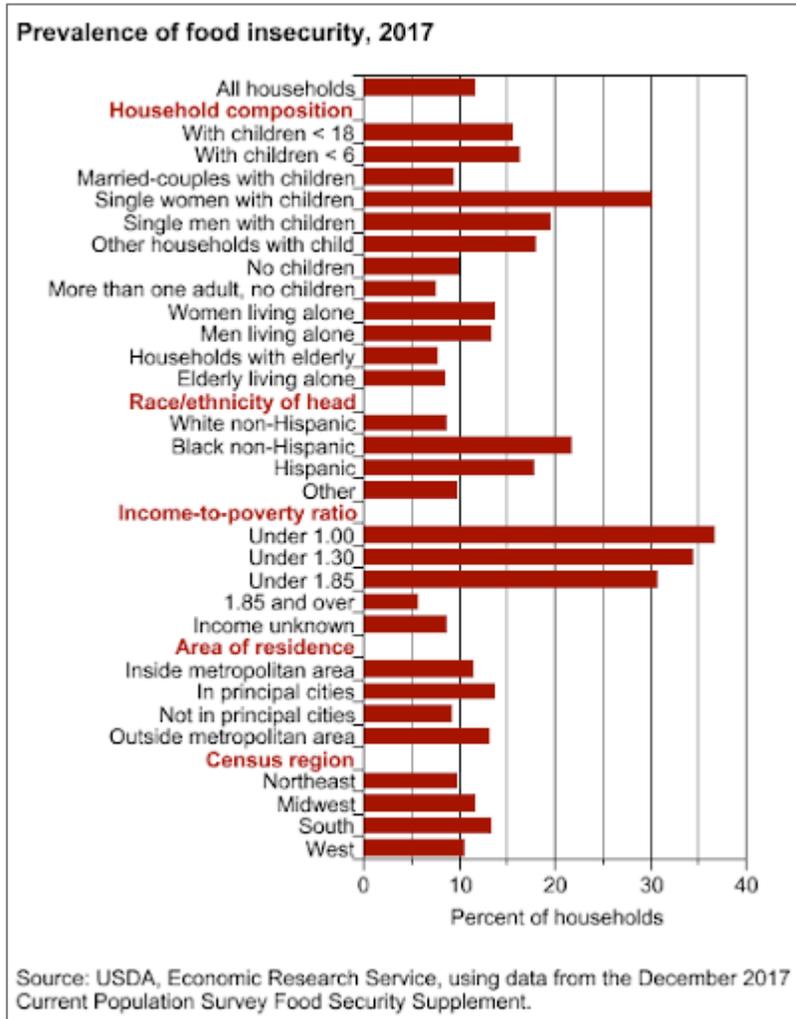


Children of color have a disproportionate prevalence of obesity



Source: CDC

Food insecurity is most prevalent in high poverty households with children



The most food insecure households are

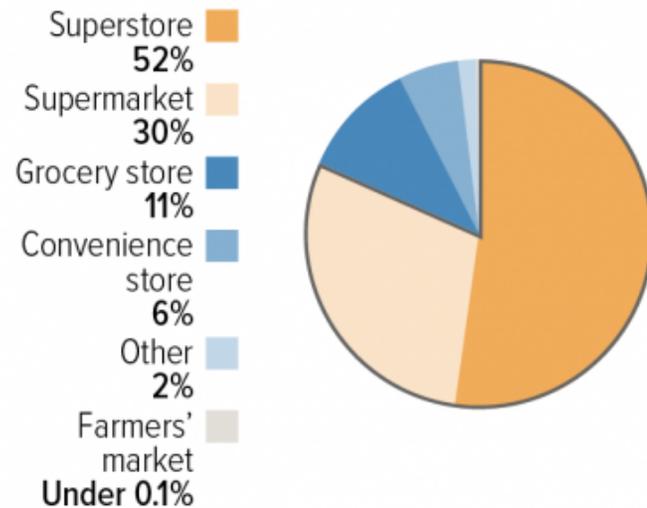
- households with children, notably single women with children
- black and hispanic head of households
- households at or below 185% of poverty line

Food insecurity is evenly distributed across urban-rural areas and different regions

SNAP consumers purchase a variety of foods mostly through large format stores

Over 80% of SNAP Benefits Are Used at Larger Stores

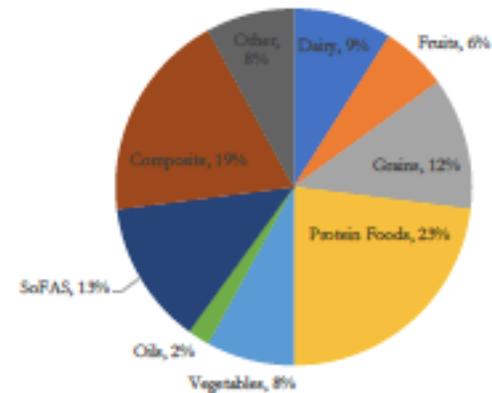
Share of benefit redemptions by store type, 2017



Note: Percentages may not add up to 100% due to rounding.

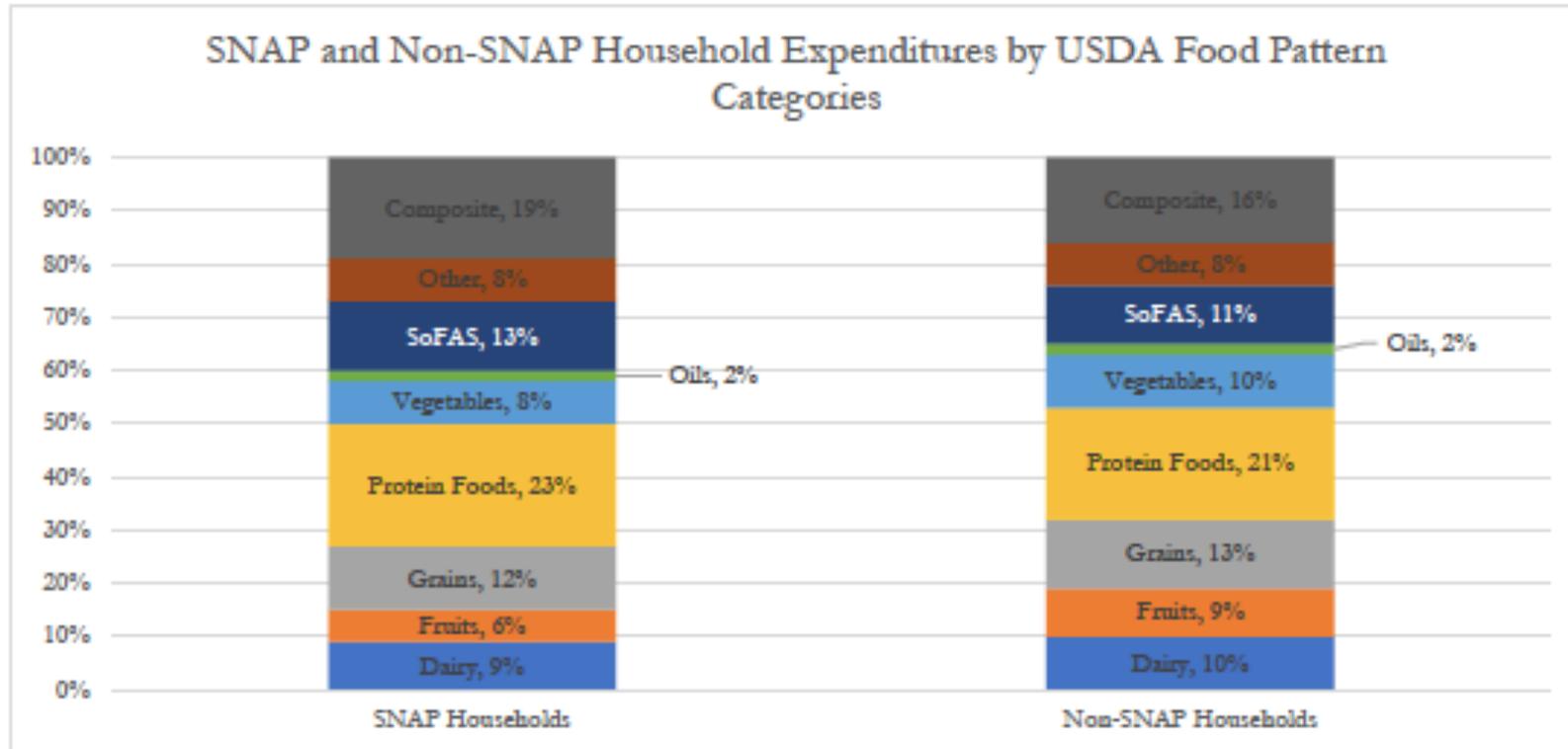
Source: U.S. Department of Agriculture Food and Nutrition Service, Benefit Redemption Division, 2017 annual report

SNAP Household expenditures by USDA Food Pattern Categories



Source: [USDA FNS](https://www.ams.usda.gov/fns/food-pattern-categories)

According to FNS, SNAP consumption/redemption is fairly comparable to non-SNAP household purchases



Overall, we do not see large differences between SNAP and Non-SNAP households on the level of Food Pattern Categories, with none varying by more than 3% (3 cents per dollar of expenditure) between the two groups. Protein Foods represented the largest share of expenditures for both groups.

Source: USDA FNS <https://fns-prod.azureedge.net/sites/default/files/ops/SNAPFoodsTypicallyPurchased.pdf>

Why? What does it take to eat well?

**healthy food is only healthy
when someone eats it**

-- Maisie Ganzler,
Chief Strategy & Brand Officer for
Bon Appétit Management Company

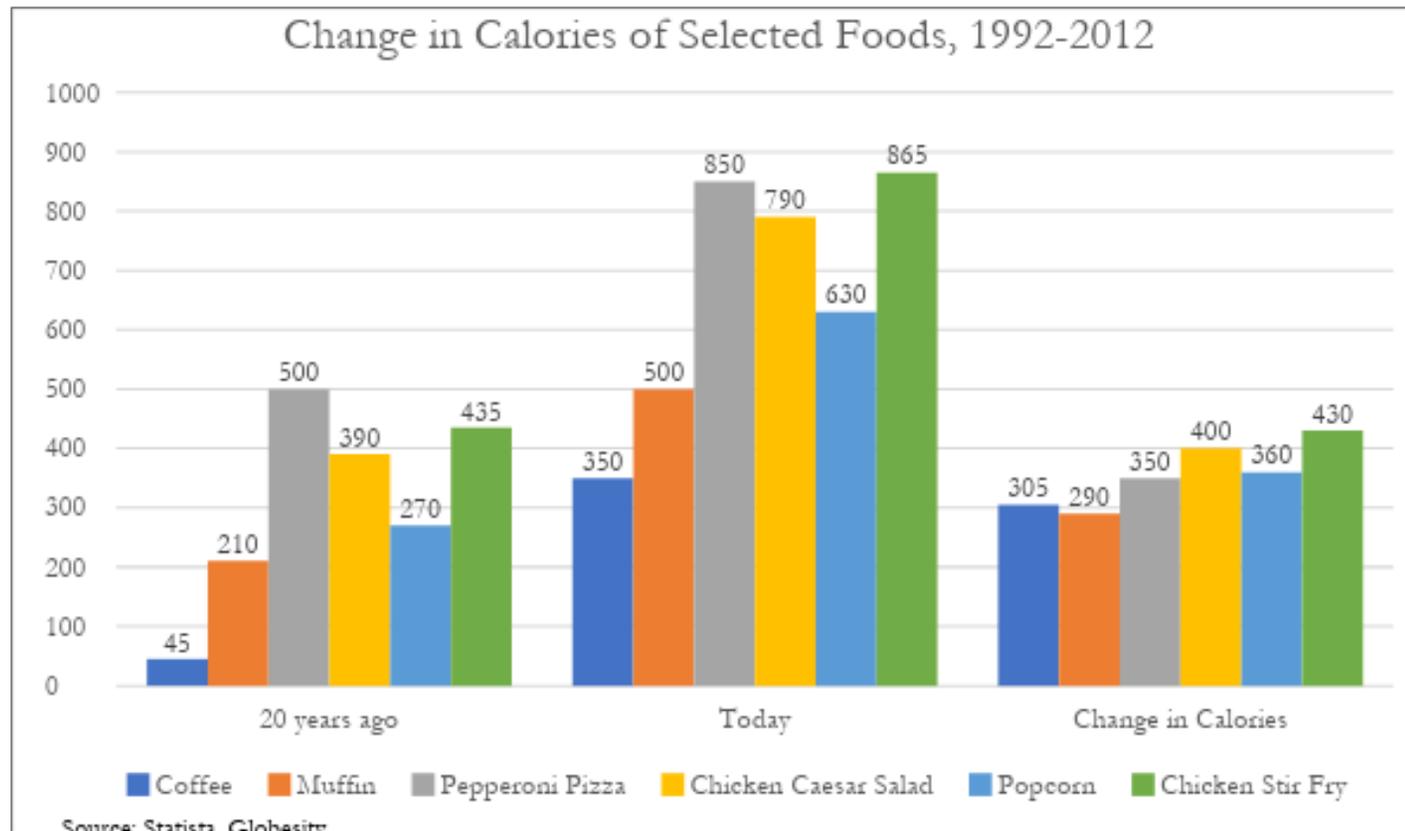
Why are low income families vulnerable to poor nutrition and obesity (FRAC)

<p>1. Limited Resources and Lack of Access to Healthy, Affordable Goods</p>	<p>Low-income neighborhoods frequently lack full-service grocery stores and farmers' markets ...less likely to have their own vehicles for regular grocery shopping...Healthy food, when available, is often more expensive...of lesser quality...higher availability of fast-food restaurants,</p>
<p>2. Cycles of Food Deprivation and Overeating</p>	<p>“Feast or Famine”: Low income parents, especially mothers, often restrict their food intake and sacrifice their own nutrition in order to protect their children from hunger. They are more likely to engage in bingeing behaviors or eat less nutritious food, leading to obesity. Maternal obesity, in turn, is a strong predictor for childhood obesity</p>
<p>3. High Levels of Stress, Anxiety, and Depression</p>	<p>Low-income families, including children, may face high levels of stress and poor mental health....Research has linked stress and poor mental health to obesity in children and adults....studies find associations between maternal stress or depression and child obesity....Stress and poor mental health may lead to weight gain through stress-induced hormonal and metabolic changes as well as unhealthful eating behaviors and physical inactivity</p>
<p>4. Fewer Opportunities for Physical Activity</p>	<p>Low-income neighborhoods often have fewer facilities that encourage physical activity....perceived barriers to physical activity....fewer natural features....Crime, traffic, and unsafe playground equipment are common barriers to physical activity...Low-income children are less able and likely to participate in organized sports, often due to barriers in expense and transportation</p>
<p>5. Greater Exposure to Marketing of Obesity-Promoting Products</p>	<p>Low-income youth and adults are exposed to disproportionately more marketing and advertising for obesity-promoting products....research shows such advertising has a particularly strong influence on the preferences, diets, and purchases of children, who are the targets of many marketing efforts</p>
<p>6. Limited Access to Health Care</p>	<p>many low-income people still are uninsured and lack access to basic health care....results in lack of screening for food insecurity and referrals for food assistance, as well as lack of diagnosis and treatment of emerging chronic health problems like obesity</p>

SOURCE: FRAC <http://frac.org/obesity-health/low-income-food-insecure-people-vulnerable-poor-nutrition-obesity>

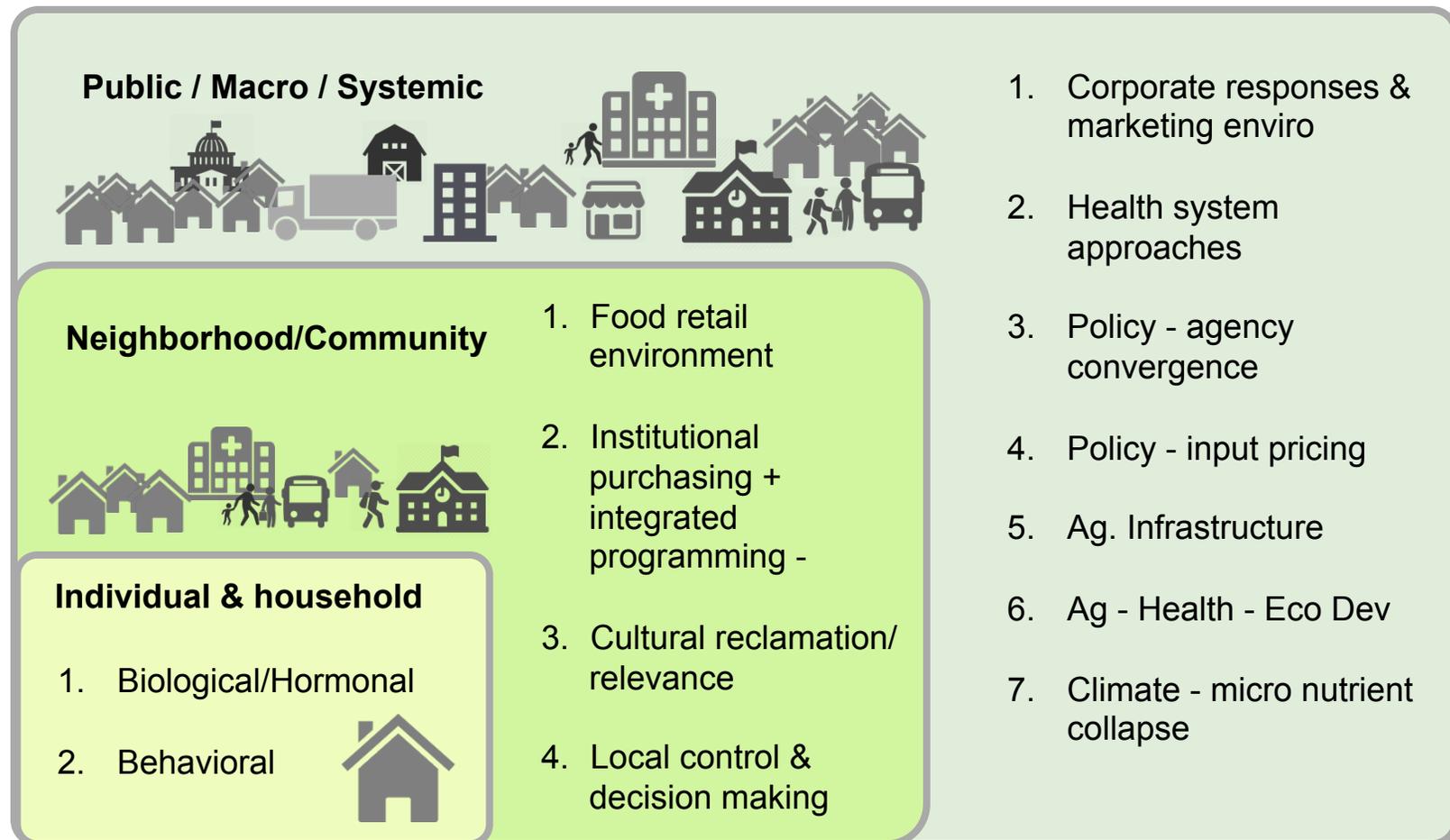
There are headwinds to making healthy food choices

Calories have been rising on the same food items for decades. A morning coffee and muffin has increased nearly 600 calories over 20 years



WHAT DOES IT TAKE TO EAT HEALTHY FOODS?

The drivers differ at each societal level

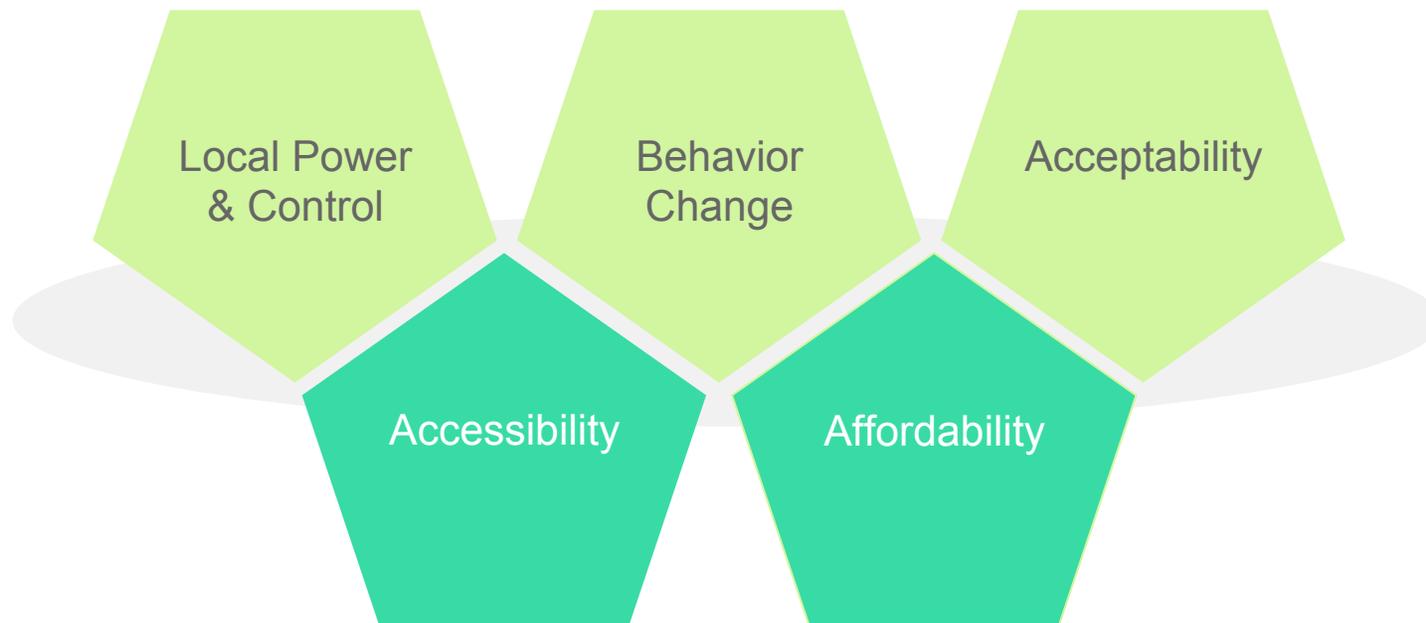


Most effective interventions are comprehensive, and engage multiple pillars simultaneously

self determination / governance
 not all top down development
 shared decision making & justice

cognitive bandwidth
 peer support
 behavioral science

taste: $f(x) = \text{salt, fat, sugar, acid}$
 product formats
 cultural relevance/ connection



emergency food, food
 deserts, food hubs, grocery
 stores, transportation

policy, nutrition incentives
 cost reduction strategies
 subsidize healthier fare

What themes and trends are emerging?

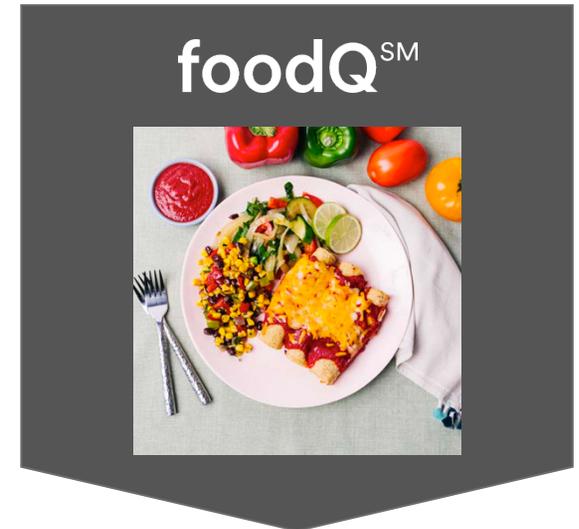
TAKEAWAYS & EMERGENT THEMES



- 1 FOOD AS MEDICAL TREATMENT
- 2 FOOD AS JUSTICE & AUTONOMY
- 3 FOOD AS CORE TO QUALITY EDUCATION
- 4 INNOVATIVE DELIVERY & ACCEPTABLE PRODUCTS
- 5 COMMUNITY ANCHORED PLACE-BASED CHANGE
- 6 NO MOONSHOTS: LONG TERM MULTI-SECTOR PARTNERSHIPS, ECOSYSTEM INTEGRATION

FOOD AS MEDICAL TREATMENT

Prescriptions, partnerships and promoted meals



- 47% decreased BMI
- 45% of households increased their food security over the program period.

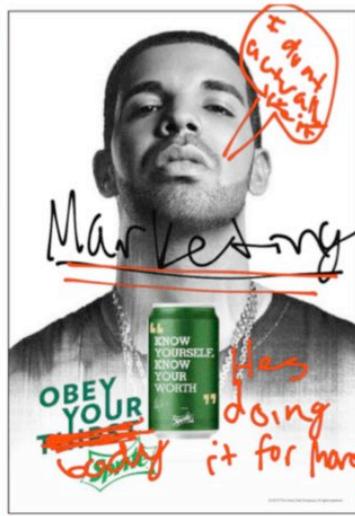
- HBA1C drop 2pt avg
- 1 pt drop // \$14k decrease in health care costs
- Patients reduced or eliminated medications

- Ongoing TBD or NA due to private company holding data

Source: Organization and program websites

FOOD AS JUSTICE:

Teens choose healthy when choice is framed as rebellious



A new study shows that teenage boys picked healthier food options when these choices were framed as rebellious.

University of Chicago professor Christopher Bryan worked with 360 eighth graders to test a traditional vs. “expose” health curriculum, which used recent reporting to illustrate how conglomerates develop and market unhealthy food

Cafeteria purchases showed that boys in the expose group bought 30% less junk food in the remaining school months

- Cited from The New Food Economy



**THE NEW
FOOD
ECONOMY**
FOLLOW THE FOOD

Sources: [New Food Economy Article](#); [Nature article](#)

FOOD AS CORE TO QUALITY EDUCATION:

School food service providers filling the niche for nutritious fare

Names	Location, Founding	Service area, lines	Indications of size, traction
	CityFresh Foods Boston, MA 1994	Regional Schools, childcare, nursing homes	\$7-9million revenues (2016) 100+ employees
	Revolution Foods San Francisco, CA 2006	15 cities Schools, community site, retail	\$50-100+ million (includes retail products and service businesses) 1000+ employees
	Gourmet Gorilla Chicago, IL	Regional	\$5-10 million (2016) 100+ employees
	Jefferson County Public Schools, Kentucky	Local county	Self operated school food service Serving 100K+ kids

INNOVATIVE DELIVERY & ACCEPTABLE PRODUCTS

Expanded distribution of convenient fresh and healthy products



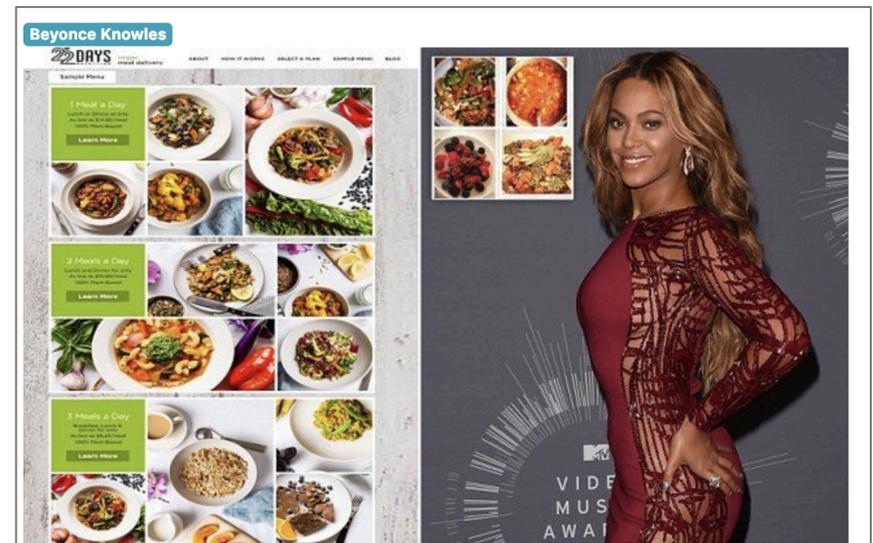
INNOVATIVE DELIVERY & ACCEPTABLE PRODUCTS

Mass culture shifts make plant based diets more 'acceptable'

“This would help explain the 600% increase in people identifying as vegans in the U.S in the last three years” (GlobalData, Forbes).

“44 days until Coachella!! Vegan Time!!”

-- Beyonce Knowles

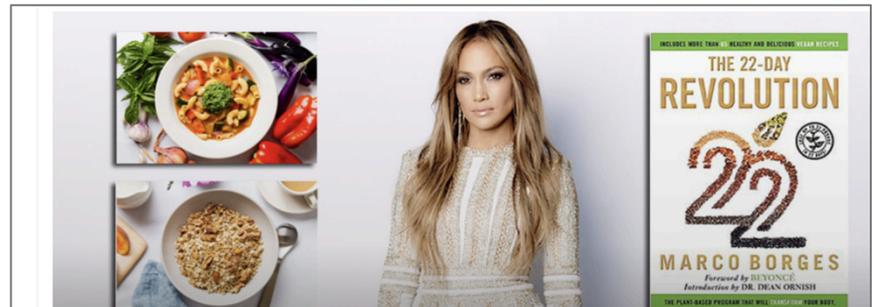


SHAQUILLE O'NEAL AND 13 TOP ATHLETES INVEST IN VEGAN BEYOND MEAT

The brand's star-packed "Go Beyond" campaign features NBA stars, NFL players, pro skaters, and other athletes who swear by vegan meat for peak performance.

by NICOLE AXWORTHY

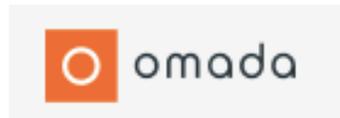
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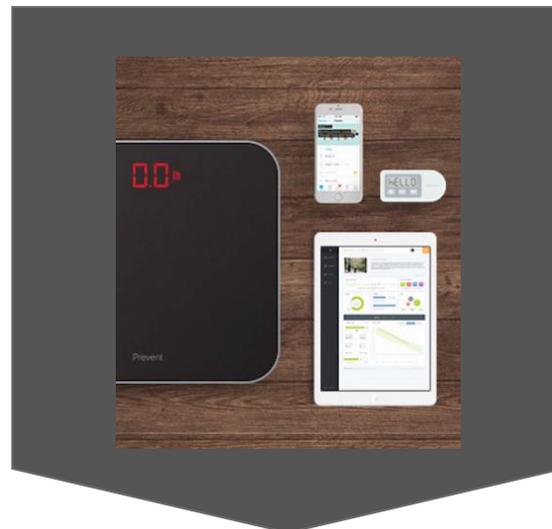
Source: <https://www.forbes.com/sites/michaelpellmanrowland/2018/03/23/millennials-move-away-from-meat/#259071a3a4a4>

COMMUNITY ANCHORED BEHAVIOR CHANGE

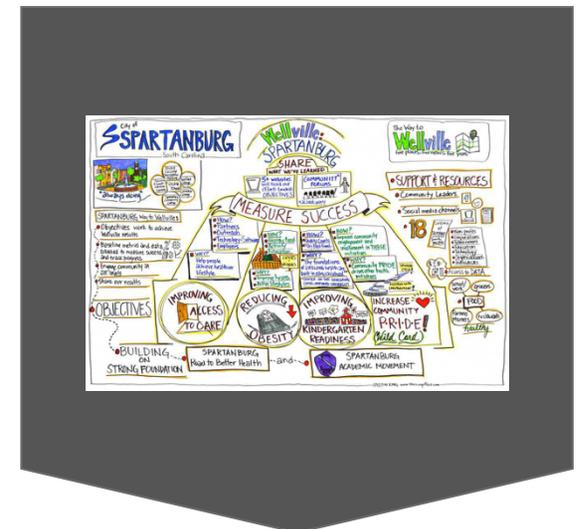
Group support, tech tools and self-determination



- Ongoing / TBD



- 22% dropped BMI category
- 1/3 lost $\geq 5\%$ of body weight
- 83% completed 9+ lessons



- Ongoing / TBD

How can philanthropy invest in
nourishing fragile communities?

POTENTIAL OPPORTUNITIES

- 1

FOOD AS MEDICAL TREATMENT

 - Engage insurers and health systems to widely implement/adopt the evidence based programs that integrate food & nutrition as a mandatory to treating diet-related conditions
- 2

FOOD AS JUSTICE

 - Expand nutrition education integrated with civic engagement
 - Support Equitable Food Oriented Development in divested neighborhoods (Kresge)
 - Invest in food entrepreneurship and enterprises that focus on serving low income consumer segment nutrition needs
- 3

FOOD AS CORE TO QUALITY EDUCATION

 - Support procurement reform integrated with behavior change programming. Fund local activity to uphold and activate standards
 - Subsidize local enterprises that provide nutritious, culturally appropriate foods & services to schools
- 4

INNOVATIVE DELIVERY & ACCEPTABLE PRODUCTS

 - Invest in food entrepreneurship and enterprises that focus on serving low income consumer segment nutrition needs
 - Elevate cultural foods and traditional nutrition
- 5

COMMUNITY ANCHORED PLACE BASED CHANGE

 - Develop an intermediary to provide long range, accountable support for trusted neighborhood anchors. Fund data capture on neighborhood-driven behavior change support and health & human services (peer groups, counseling, experiential education, etc.)
- 6

NO MOONSHOTS

 - Convene/support multi-sector partnerships, ecosystem agents (regulatory, industry, production, labor, etc.) on target goals like SNAP reform, specialty crop subsidies, food marketing, etc.

Traditional funding sources have been joined by new and expanding players focused on food & ag.

USDA & LONGTIME FOUNDATION PLAYERS

USDA RD	USDA AMS	USDA FNS	NIH	Farm Credit	CDC
KRESGE	ROBERT WOOD JOHNSON			KELLOGG	SURDNA

FINANCE

- CDFIs (HFFI)
- Bank CRA
- State & Local Development Finance Authorities (CDFA)

HEALTHCARE

- Community Benefits Admin
- Health insurance companies
- Hospital Foundations
- Hospital purchasing
- Employer wellness budgets
- FQHCs Federally Qualified Health Centers

ECONOMIC DEV.

- EDA
- Housing developers
- State & Local Economic Development efforts focused on attracting high quality workforces
- State & regional planning authorities

VENTURE CAPITAL & PRIVATE EQUITY

- CPG-focused venture capital
- Farmland focused private equity funds

CASE SNAPSHOTS

Fresh Food Farmacy™ Geisinger



Organization profile

- Fresh Food Farmacy was launched in July 2016 at Geisinger Shamokin Area Community Hospital in Coal Township, Pennsylvania
- Partnered with Central PA Food Bank

Solution

- The Fresh Food Farmacy provides continual diabetes education and healthy food
- *“We now serve more than 250 patients and their families”*



Traction

- Patients seeing HBA1C improvements and better able to manage diabetes with fewer complications
- Several patients reduced or eliminated medications

Growth constraints

- Health system payment drivers not supporting food costs, preventions

Growth Potential

- Move from “experimentation mode” to large scale programs all over the country

Program Impact

Average 2 point drop in HBA1C

1 point drop in HBA1C correlates to a \$14,000 decrease in health care costs



Organization profile

- Wholesome Wave is a nonprofit based in Bridgeport CT, founded 2007
- Programs in 49 states

Solution

Participating providers enroll patients into the program for 4-5 months at a time. Doctors and nutritionists provide \$1/day per household member in produce prescriptions, which can be redeemed at participating markets and grocery stores.

Traction

FVRx has been implemented at multiple city hospital systems (NYC Health and Hospitals, Houston, LA) and community based health centers (12+), as well as pilots with Target and BCBS Minn, Navajo Nation

Growth constraints

Food not a billable item in Medicaid/ Medicare. Health care drivers still built around treatments, not prevention.

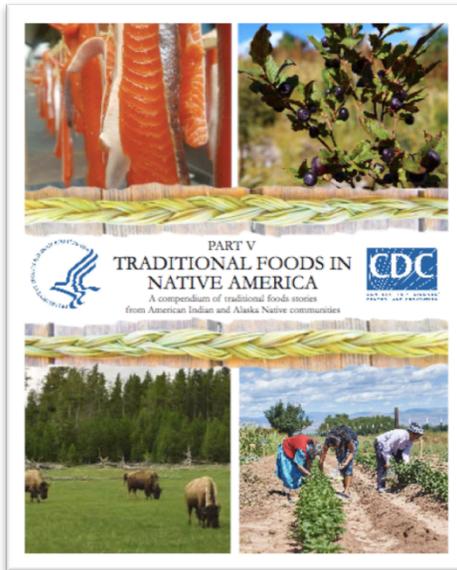
Growth Potential

Healthy food part of standard of care in chronic disease management and prevention

Program Impact

- 93% of participants met fruit and veg recommendations
- 206% increase in individual vegetable consumption.
- 47% decreased their BMI.
- 45% of households increased their food security
- \$1,291,000+ distributed through FVRx for fruit and veg.

Native Traditional Foods Project



Organization profile

- National interagency program that used traditional native foods to combat rising diabetes in native communities
- 6-years, running from 2008-2014

Solution

Program elements included: Food facilitated health dialogue, Elders as teachers and culture-bearers, Elevated traditional values, Community driven planning,

Traction

17 tribal programs participated from across the country

Growth constraints

Time limits of agency funding do not match long horizon of impact. Tracking data across customized programs challenging

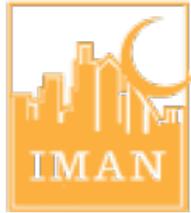
Growth Potential

Platform of combining health dialogue with elevating traditional foods and engaging elders as culture bearers can be applied in many different cultures & communities

Program Impact

- Improved glucose, Blood Pressure control
- Declines in ESRD (End stage renal disease)
- Normalized health dialogue, difficult to discuss topics

Source: <https://www.cdc.gov/diabetes/ndwp/traditional-foods/index.html>; Satterfeld et al



Organization profile

- Inner-city Muslim Action Network (IMAN) is a community organization that fosters health, wellness and healing in the inner-city by organizing for social change, cultivating the arts, and operating a holistic health center. Based in Chicago and expanding to other states



Solution

Comprehensive approach to improving individual and neighborhood health including: Corner store campaign; Health clinic (behavioral, medical); Arts & Culture programming; Organizing & political advocacy; Property development



Traction

Growing staff and services
Expansion to Atlanta and West Coast
Designation of clinic as Federally Qualified Health Care facility “look alike”

Growth constraints

Efficacy with patients and individual community residents requires funding to match depth and length of behavior change programs

Growth Potential

Expansion of locally driven programs demonstrates power of community led changes in neighborhood nutrition

Program Impact

- 2.6% A1C reduction in wellness coupon participants
- 56 pts avg. reduction in cholesterol with participants
- Positive trending KPIs on depression screening, weight assessment, BMI

Source: IMAN [website](#) and staff

FARMER'S FRIDGE



Organization profile

- Chicago based company salad vending machine company that uses consumer facing app to manage demand planning and stocking
- \$42 M of Venture Capital money raised, DANONE Ventures and former Google CEO among the VCs supporting the investment in the company

Solution

- A platform integrating: sourcing (locally as possible), preparing food, managing vending machines, acquiring customers (App)
- Ready to eat product at a cost of \$6 or \$8 (sandwich / salad) +\$ 2 for adding protein

Traction

- 300 healthy vending machines in Chicago area
- Best traction in convenience channels: Airport, College and Downtown/ dense offices, Convenience stores (Walgreens, 7-11s) – note these include places that employ large groups of low-income people, though specific consumer income brackets are not tracked

Growth constraints

- Works well in dense urban areas given tight distribution economics
- SNAP does not allow online or vending machine purchases

Growth Potential

Company vision of a \$1-2 meal for low income buyers would require some type of Public subsidy (i.e. "Health Vending" using SNAPs)

Program Impact

NA – private company; consumer data not available



Five Communities Demonstrating the Value of Investing in Health

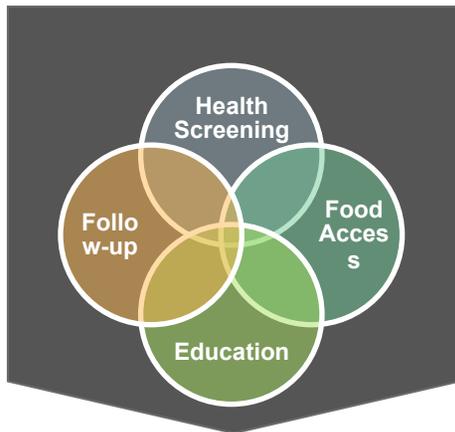


- [Organization profile]**
 - Wellville is a national nonprofit project to demonstrate the value of investing in health.
 - Founded by angel investor Esther Dyson
- [Solution]**
 - Seeking cost savings to healthcare system
 - “Wellville supports its communities the way a business accelerator helps startups.”
 - 5 communities chosen out of 42 applications (under < 100,000 inhabitants); in 3 of them lots of interest in food: Muskegon (MI), Lake County (CA), North Hartford (CT)
- [Traction]**
 - Year 5 of 10... *Lessons Learned to be published (2024)*
 - Dissemination of results and lessons is major scale strategy
- [Growth constraints]**
 - Pilot project with 10-years length; some of the lessons learned on specif areas could be applied nationally
- [10-years ahead value proposition]**
 - Extend this approach for +50 communities in the US, with specific goals related to nutrition...
 - Turn this “Social Lab” into Public Policies based on evidences



[Organization profile]	<ul style="list-style-type: none"> • Boston based (founded in 2011) • \$200 M of capital raised from VC's and other sources • Outcome based business model
[Solution]	<ul style="list-style-type: none"> • Assist health system with patients who cost more than \$1,000 / month due to some type of chronic diseases • Food behavior change as one of the key approaches; "Health Coaches" (re)educate people about food choices • Establish relationship, then use technology to enable follow-on care
[Traction]	<ul style="list-style-type: none"> • 12 clinics around US (end of 2019), with local partnerships in low income areas to expand the business model (i.e. Grameen Vida Sana)
[Growth constraints]	<ul style="list-style-type: none"> • It requires a systemic change to grow: (1) they need Payers (sponsors); (2) Doctors have to buy into the model; (3) Patients have to change physician (inertia)
[10-years ahead value proposition]	<ul style="list-style-type: none"> • There is potential to Iora Health and other clinics using the same "outcome based" business model reinforce the importance of wellbeing, including better nutrition

Transforming Communities Initiative



Organization profile

- Coalition in Montgomery County, Maryland that included non-profit healthcare access facilitator, food banks, farmers markets, churches, and medical care facilities; funded by Montgomery County, MD, Healthcare Initiative Foundation, and Adventist Healthcare
- Target population: low income families with diabetes

Solution

- **Health Screening** by local community health workers (CHWs) that link patients to resources
- **Food Access**: 12 weeks of free fruit and vegetables from food banks, farmers' markets and other support orgs
- **Education**: One activity/month to learn about healthy eating and cooking, exercise and/or health
- **Follow-up**: CHWs provide additional support/motivation

Growth constraints

- Continuity with participants after temporary engagement
- Maintaining and cultivating Partnerships required for program

Growth Potential

- Partnership and program provide powerful template for locally-driven nutrition and health efforts

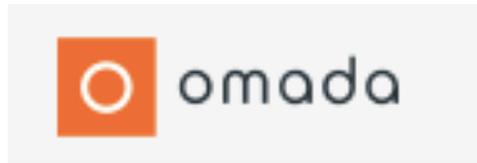
Program Impact

Food insecurity declined from 74% to 57% in 2nd cohort

65% lost weight; avg 8.2 lbs in 3 months

75% with "out of control" diabetes improved HbA1c

40-50% consumed more fruits and vegetables



[Organization profile]	<ul style="list-style-type: none"> • San Francisco based tech company providing 16 weeks online program for pre-diabetes, diabetes 2, hypertension, and high cholesterol • \$126 M of Venture Capital money invested in the company
[Solution]	<ul style="list-style-type: none"> • Online program for pre-diabetes, diabetes 2, hypertension, and high cholesterol prevention / control • An App and a wireless scale are part of the tool kit • Behavioral science and data science approach based
[Traction]	<ul style="list-style-type: none"> • >100,000 users • Among the first digital health companies to receive reimbursement from the U.S. federal government for its online diabetes prevention program. • Some scientific publications supporting the model, including good results to underserved populations
[Growth constraints]	<ul style="list-style-type: none"> • Currently employee based focus business model... but in general “adoption curve” can be reinforced by some other sponsors of the program (Health Insurance etc.)
[10-years ahead value proposition]	<ul style="list-style-type: none"> • Could be part of the lifestyle of Millions of people. High potential to be integrated in many Health practices / prescriptions for follow-up purpose (“join Omada”)



Tackle the rising cost of chronic diseases

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Evaluation of a Digital Behavioral Counseling Program for Reducing Risk Factors for Chronic Disease in a Workforce

Wilson, Mark G. HSD, MS; Castro Sweet, Cynthia M. PhD; Edge, Michael D. PhD; Madero, Erica N. MS; McGuire, Megan BA; Pilsmaier, Megan BS; Carpenter, Dan MPH; Kirschner, Scott BA

Journal of Occupational and Environmental Medicine: August 2017 - Volume 59 - Issue 8 - p e150–e155
doi: 10.1097/JOM.0000000000001091
ORIGINAL ARTICLE

Evaluation of a digital diabetes prevention program adapted for the Medicaid population: Study design and methods for a non-randomized, controlled trial

Sue E. Kim ^a, Cynthia M. Castro Sweet ^{b, c, d, e}, Eliza Gibson ^{b, e}, Erica N. Madero ^{b, e}, Barbara Rubino ^{c, e}, Janina Morrison ^{c, e}, Debra Rosen ^{d, e}, Wendy Imberg ^{c, e}, Michael R. Cousineau ^{a, e}

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KEY DEMOGRAPHICS

634
study participants

58/42
male/female split

68%/14%/9%
caucasian/
african-american/
hispanic split

46
average age

34.5kg/m²
average starting BMI

KEY OUTCOMES

4.6%
average 16-week weight loss

31%
participants who lost at least 5% of their initial body weight

82.6%
participants who completed at least 9 lessons

22%
participants who dropped one or more BMI category

KEY DEMOGRAPHICS

230
study participants

48
average age

19/81
male/female split

66%/46%
hispanic or latino/preferred Spanish as primary language

KEY OUTCOMES

Out of 259 approached and eligible individuals, 230 (89%) started the intervention. Baseline technology use included:

78%
own a mobile phone

60%
use a computer at least once a week

61%
are very comfortable with computers

Success factors of community based nutrition solutions

7 key success factors of Community based solutions for better nutrition
(by Andrew Fisher, author of Big Hunger)

1

Board Composition

2

Executive Leadership

3

Mission

4

Culture of inquiry

5

Community engagement

6

Integrity

7

Play well with others

BEST PRACTICES CASES

Highlighted





Culture of inquiry > Healthy Food

4

Culture of inquiry

The Food Trust has done a great job of developing very effective programs, including farmers markets, kindergarten nutrition education, healthy corner stores and retail grocery policy (fresh food financing initiative).



Making Healthy Food Available to All

Since 1992, The Food Trust has been working to ensure that everyone has access to affordable, nutritious food and information to make healthy decisions.

The Food Trust's comprehensive approach includes improving food environments and teaching nutrition education in schools; working with corner store owners to increase healthy offerings and helping customers make healthier choices; managing farmers markets in communities that lack access to affordable produce; and encouraging grocery store development in underserved communities.

Integrity + Play well with others

<p>6 Integrity</p>	<p>WhyHunger has maintained a high level of integrity in their adherence to steering away from funding sources that might compromise their principles.</p>	<p>Our approach</p> <p>We don't just ask why. We find solutions to hunger that transform and last. Our answer is to build power with grassroots initiatives that nourish people and enrich communities.</p>		
<p>7 Play well with others</p>	<p>Why Hunger does an exceptional job as a backbone organization for multiple coalitions, such as the US Food Sovereignty Alliance and Closing the Hunger Gap</p>	<p>Our approach </p> <p>Invest in sustainable, grassroots solutions and training programs that help community members grow their own food, elevate their voice and share their knowledge with others.</p>	<p>Nourish people </p> <p>Connect people to nutritious and affordable food through the most comprehensive database of emergency food access organization in the U.S.</p>	<p>Build Power </p> <p>Support communities working to transform our food system by building social justice and striking at the root causes of hunger and poverty.</p>



Executive Leadership + Mission

2

Executive Leadership

[Susannah Morgan of]Oregon Food Bank is a great example of how an ED can really make a difference. She's laid down the gauntlet to her board on the issues that she cares about and wants to move forward, including advocacy on the minimum wage, housing, and racial equity. She has pushed the organization to take an assertive position on equity, hiring a very competent director of DEI.

4

Mission.

Broader than most of Food Banks:

“to end hunger and its root causes.”



Startups are developing new solutions to tackle chronic disease and support behavior change through apps

Health system based approach to chronic diseases appears more effective at persuading investors and users



HABITS & PREFERENCES

Users answer questions about number of meals consumed per day, frequency of dining out, food allergies, food preferences and number of household members.

BIOMETRIC HEALTH DATA

We can enroll your employees during Zipongo on-site health fairs where users discover and can enter their health data.

This includes current cholesterol levels, blood pressure, height, weight and body mass index.

YOUR NUTRITION SOLUTION

We provide personalized recipe recommendations, meal planning tools and smart shopping lists.

We even offer workplace cafe recommendations and healthy menu items at thousands of

PREDIABETES

TYPE 2 DIABETES

HYPERTENSION

HIGH CHOLESTEROL

System approach	From food	From health
VC capital raised	\$50 M	\$126 M
Estimated revenues	\$4 M	\$38 M
Estimated # of users	Not disclosed	>85,000
Estimated # of employees	66	206

Sources: <https://www.crunchbase.com/organization/omada-health#section-overview>; <https://www.owler.com/>

Outside Innovation Programs: Accelerators / Incubators / Corporate Venture



Names	Location	Company support	Highlights
	PepsiCo facilities (NY / TX) and Chicago/IL	PepsiCo	\$20k Acceleration program support + \$100K from PepsiCo Ventures Group
	San Francisco/CA	Givandan, Mars, Danone, Ingredion	New incubator program (just launched)
	New York /NY	Danone	Corporate Venture
	San Francisco/CA	Kraft Heinz	\$100 M Corporate Venture Fund
	Minneapolis/MN	Gargil / Ecolab / Techstars	New food companies 13-week acceleration program
	New York /NY	Chobani	\$25k Acceleration grant (equity free) as part of the program
	San Francisco/CA	Philanthropic VC and foundations	Cohort based accelerator. Nonprofit model sharing data and learnings with the field

APPENDIX

COMPLETED INTERVIEW LIST

Organization	Name	Title	Type
Big Hunger	Andy Fisher	Author	Other
Chartwells, BAMCO	Maisie Ganzler	Chief Strategy & Brand Officer	Private Sector
Consortium to Lower Obesity in Chicago Children	Adam Becker	Executive Director	Institutional Stakeholder
The Consumer Goods Forum	Sharon Bligh	Health & Wellness Director	Private sector
Danone (current); Let's Move (past)	Debra Eschmeyer	VP Communications and Community Affairs,	Institutional stakeholders
Farmer's Fridge	Shayna Harris	Chief Growth Officer	Private sector
Food System 6 Accelerator	Renske Lynde	Co-Founder & Managing Director	Private Sector
The Food Trust	Dwayne Wharton	Director of External Affairs	Institutional stakeholders
GrayHare Ventures	Steve Tremitiere	Founder and CEO; Chief Development Officer at Briovation	Private sector
Healthcare Without Harm	Stacia Clinton	National Program Director for US and Canada - Healthy Food in Healthcare Program	Institutional stakeholders
Iora Health	Rushika Fernandopoulle	Co-Founder and CEO	Private sector
McGill University	Laurette Dubé	James McGill Chair of Consumer and Lifestyle Psychology and Marketing; Chair and Scientific Director, McGill Centre for the Convergence of Health and Economic	Other
New York University	Carolyn Dimitri	Associate Professor, Dept of Nutrition, Food Studies and Public Health	Other

COMPLETED INTERVIEW LIST, CONTINUED

Organization	Name	Title	Type
NowPow	Dr. Stacy Lindau	Founder and Chief Innovation Officer	Private sector
Reinvestment Fund	Molly Hartman	Program Director, Healthy Food Financing Initiative	Private sector
Robert Wood Johnson Foundation	Jamie Bussell	Program Officer	Institutional stakeholders
University of Illinois	Jonathan Coppess	Director, Gardner Agriculture Policy Program	Other
Village Capital	Matt Zieger	Vice President, Head of US Ventures	Private sector
Wellville	Esther Dyson	Executive Founder	Institutional stakeholders
Wholesome Wave	Michel Nischan	Founder & CEO	Institutional stakeholders
Zipongo	Dexter Shurney	Chief Medical Officer/ Sr. Vice President	Private Sector

Type Guide

Institutional stakeholders – Schools, hospitals, food banks, leading nonprofits
Private sector – Corporates & startups
Other – Academics, Authors, Cultural Tastemakers